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| 09/887,863 | 06/22/2001 | Thomas M. Linden | M-9248 US | 7993 |

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| EXAMINER | |
|---|---|
| LAYE, JADE O | |
| **ART UNIT** | **PAPER NUMBER** |
| 2614 | |

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/887,863 | LINDEN ET AL. | |
| | Examiner | Art Unit | |
| | Jade O. Laye | 2614 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☒ Claim(s) *2,5-7 and 9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 June 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/01, 7/01,&2/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statements (IDS) submitted on 6/22/01, 7/11/01, and 2/19/2003 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

### *Drawings*

1. The drawings are objected to because Figures 1-5 lack descriptive labels and Figures 1 & 2 should be labeled "prior art." Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

2. Claims 2, 5-7, and 9 are objected to because of the following informalities:

a. Each contains the phrase "...the act...", which lacks antecedent basis.

b. Claim 9 contains the phrase "...at least one of at least one of...". This appears to be a typo.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 42-60 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The "wireless broadcast signal," as claimed in claims 42-60 is not patentable subject matter under 35 U.S.C. 101.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 10-13, 15, 16, 19, 20, 23-26, 29-32, 34, 35, 38, 39, 42-45, 48-51, 53, 54, 57, and 58 are rejected under 35 U.S.C. 102(e) as being anticipated by Rostoker et al. (US Pat. No. 6,111,863).

As to claim 1, Rostoker et al disclose a system and method which dynamically allocates bandwidth between signals. The disclosure further teaches storing the signals (i.e., programs) within buffers, allocating time slots for the signals, assigning high and low priority to the signals, and broadcasting the signals. (Abstract ; Col. 1, Ln. 7-10 ; Col. 2, Ln. 15-31 ; Col. 3, Ln. 32-57 ; Col. 4, Ln. 23-58 ; Col. 6, Ln. 41-51). Accordingly, Rostoker et al anticipate each and every limitation of claim 1.

Claims 23 and 42 correspond to the method claim 1. Thus each is analyzed and rejected as previously discussed.

As to claim 2, Rostoker further teaches allocating a larger bandwidth to the high priority signals. (Col. 4, Ln. 47-58). Accordingly, Rostoker et al anticipate each and every limitation of claim 1.

Claims 24 and 43 correspond to the method claim 2. Thus, each is analyzed and rejected as previously discussed.

As to claim 3, Rostoker further teaches increasing said first bandwidth of the channel by utilizing a portion of the bandwidth of a second channel. (Col. 4, Ln. 30-58). Although not explicitly taught, this limitation is inherent. Rostoker teaches each signal is generally given a channel comprising 1/3$^{rd}$ of the total bandwidth (only exemplary embodiment). From this, it can be reasonably inferred that if a higher priority is subsequently given to one of the signals, this

same signal would then take a portion of another signals 1/3rd bandwidth. Accordingly, Rostoker et al anticipate each and every limitation of claim 3.

Claims 25 and 44 correspond to the method claim 3. Thus, each is analyzed and rejected as previously discussed.

As to claim 4, Rostoker further teaches increasing the bandwidth to encompass the entire RF bandwidth. (Col. 4, Ln. 47-50). Accordingly, Rostoker et al anticipate each and every limitation of claim 4.

Claims 26 and 45 correspond the method claim 4. Thus, each is analyzed and rejected as previously discussed.

As to claim 10, Rostoker further teaches the use of multiplexed bit streams. (Col. 3, Ln. 51-55 & Col. 5, Ln. 28-44). Applicant defines "channel" as "...a path on which information is carried, and includes...frequency...separation from other parallel channels existing within a particular government allocated frequency spectrum." (Spec. Pg. 8, Ln. 24). Based upon this, the Examiner broadly interprets Rostoker as disclosing the use of plural channels (inherently) because the audio, video, and data signals can be separated based upon bandwidth allocations. (as disclosed within the earlier rejections). Therefore, each bandwidth allocation can be broadly interpreted as a channel. Accordingly, Rostoker anticipates each and every limitation of claim 10.

Claims 29 and 48 correspond to the method claim 10. Thus, each is analyzed and rejected as previously discussed.

As to claim 11, Rostoker discloses the use of a satellite system. (Col. 1, Ln. 7-10 & 58-63 ; Col. 3, Ln. 14-18 & Fig. 1). Accordingly, Rostoker anticipates each and every limitation of claim 11.

Claims 30 and 49 correspond to the method claim 11. Thus, each is analyzed and rejected as previously discussed.

As to claim 12, Rostoker further teaches the use of a digital satellite system. (Col. 1, Ln. 7-10 & 58-63 ; Col. 3, Ln. 14-18 & Fig. 1). Accordingly, Rostoker anticipates each and every limitation of claim 12.

Claims 31 and 50 correspond to the method claim 12. Thus, each is analyzed and rejected as previously discussed.

As to claim 13, Rostoker further teaches the use of a terrestrial digital wireless signal. (Col. 1, Ln. 7-10 & 58-63 ; Col. 3, Ln. 14-18 & Fig. 1). Accordingly, Rostoker anticipates each and every limitation of claim 13.

Claims 32 and 51 correspond to the method claim 13. Thus, each is analyzed and rejected as previously discussed.

As to claim 15, Rostoker further teaches the use of a coded orthogonal frequency division multiplexing technique. (Col. 3, Ln. 43-67 thru Col. 4, Ln. 1-10). Accordingly, Rostoker anticipates each and every limitation of claim 15.

Claims 34 and 53 correspond to the method claim 15. Thus, each is analyzed and rejected as previously discussed.

As to claim 16, Rostoker further teaches the use of any form of modulation. (Col. 7, Ln. 39-42). This also encompasses 8-level digital vestigal sideband modulation. Accordingly, Rostoker anticipates each and every limitation of claim 16.

Claims 35 and 54 correspond to the method claim 16. Thus, each is analyzed and rejected as previously discussed.

As to claim 19, Rostoker further teaches the broadcast of audio signals (i.e., programs). (Col. 4, Ln. 47-58). Accordingly, Rostoker anticipates each and every limitation of claim 19.

Claims 38 and 57 correspond to the method claim 19. Thus, each is analyzed and rejected as previously discussed.

As to claim 20, Rostoker further teaches the broadcast of video signals (i.e., programs). (Col. 4, Ln. 47-58 and the disclosure used to reject claim 1). Accordingly, Rostoker anticipates each and every limitation of claim 20.

Claims 39 and 58 correspond to the method claim 20. Thus, each is analyzed and rejected as previously discussed.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker in view of Aharoni et al. (US Pat. No. 6,014,694).

Claim 5 recites the method of claim 1, further comprising the act of increasing a bandwidth of a high priority time part during a first portion of a day. As discussed above, Rostoker et al disclose all limitations of claim 1, but fail to state whether the bandwidth can be increased based upon the time of day. However, within the same field of endeavor, Aharoni discloses a similar system for adaptively transporting video over networks, wherein the available bandwidth varies over time. (Abstract & Col. 1, Ln. 20-23 and Ln. 45-50). Although the

Aharoni reference does not specifically address increasing bandwidth based upon the time of day, it does teach that bandwidth can vary over time and according to network traffic. This teaching suggests modifying the Rostoker disclosure to provide a combined system wherein the bandwidth can be varied according to the time of day and/or network traffic. An obvious modification of this combined system would be to vary the bandwidth during a specific portion of the day (i.e., the first portion of the day). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the system of Rostoker with the modified teaching of Aharoni in order to create a system capable of allocating bandwidth between signals based upon times of the day, thereby addressing variations in network traffic and bandwidth limitations.

6. Claims 6-9, 27, 28, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker in view of Sourani. (US Pat. No. 6,631,132).

Claim 6 recites the method of claim 1, further comprising the act of increasing a duty cycle of a particular high priority time part by increasing a duration of the particular high priority time part. (Note: the "*duty cycle*" is the time period between high priority time segments). As discussed above, Rostoker et al anticipate each and every limitation of claim 1, but fail to specifically disclose the limitations of claim 6. However, within the same field of endeavor, Sourani discloses a similar system which teaches various methods of adjusting the length of packets, thereby minimizing the delay between the receipt of urgent packets. (Col. 6, Ln. 5-26 & 55-67 thru Col. 7, Ln. 1-58 ; Fig. 3). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Rostoker and

Sourani in order to provide a system capable of adjusting the length of high priority packets, thereby affecting system delay.

Claims 27 and 46 correspond to the method claim 6. Thus, each is analyzed and rejected as previously discussed.

Claim 7 recites the method of claim 1, further comprising the act of decreasing a duty cycle of a particular high priority time part by increasing a duration of a time segment that includes the particular high priority time part. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose the limitations of claim 7. However, within the same field of endeavor, Sourani discloses a similar system which teaches various methods of adjusting the length of packets, thereby minimizing the delay between the receipt of urgent packets. (Col. 6, Ln. 5-26 & 55-67 thru Col. 7, Ln. 1-58 ; Fig. 3). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Rostoker and Sourani in order to provide a system capable of adjusting the length of high priority packets, thereby minimizing system delay.

Claims 28 and 47 correspond to the method claim 7. Thus, each is analyzed and rejected as previously discussed.

Claim 8 recites the method of claim 1, wherein a first high priority time part duty cycle is defined during a first portion of a day, and a second high priority time part duty cycle, larger than the first high priority time part duty cycle, is defined during a second portion of the day. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose the limitations of claim 8. However, Sourani teaches his system is capable of adjusting the length of packets and/or the occurrence rate of the packets based upon the time

of day. (Col. 7, Ln. 34-39). Therefore, the limitation of claim 8 would be an obvious variant of Sourani's disclosure. Accordingly, the combined systems of Rostoker and Sourani disclose all limitations of claim 8.

Claim 9 recites the method of claim 1, further comprising limitations too numerous to list herein (please refer to claim sheet). As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose the limitations of claim 8. However, Sourani teaches his system is capable of adjusting the length of packets and/or the occurrence rate of the packets based upon the time of day. (Col. 7, Ln. 34-39). This disclosure can be broadly interpreted to encompass a time of day when user demand is higher. Therefore, the limitation of claim 9 would be an obvious variant of Sourani's disclosure. Accordingly, the combined systems of Rostoker and Sourani disclose all limitations of claim 9.

7. Claims 14, 33, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker in view of Hunsinger et al. (US Pat. No. 5,465,396).

Claim 14 recites the method of claim 1, wherein the channel is defined in an in-band on-channel signal or in an hybrid in-band on-channel signal. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to teach the limitation of claim 14. However, within the same field of endeavor, Hunsinger discloses a system for combining AM and FM transmission known as in-band on-channel digital broadcasting. (Abstract & Col. 1, Ln. 62-67 thru Col. 2, Ln. 1-9). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Rostoker and Hunsinger in

order to provide a system capable of simultaneously transmitting digital broadcast signals over existing allocations without interfering with conventional analog FM signals.

Claims 33 and 52 correspond to the method claim 14. Thus, each is analyzed and rejected as previously discussed.

8. Claims 17, 18, 36, 37, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker in view of Yoshida. (US Pat. No. 5,699,056).

Claim 17 recites the method of claim 1, wherein the first set of programs comprises at least one motor vehicle traffic report program. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose the limitations of claim 17. However, within the same field of endeavor, Yoshida teaches the broadcast of traffic reports. (Abstract ; Col. 1, Ln. 5-21). Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to combine the systems of Rostoker and Yoshida in order to provide a system capable of broadcasting traffic reports.

Claims 36 and 55 correspond to the method claim 17. Thus, each is analyzed and rejected as previously discussed.

Claim 18 recites the method of claim 1, wherein the first set of programs comprises at least one weather report. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose the limitations of claim 18. However, Yoshida discloses the broadcast of a weather program. (Abstract ; Col. 1, Ln. 5-21). Therefore, the combined systems of Rostoker and Yoshida contain all limitations of claim 18.

Claims 37 and 56 correspond to the method claim 18. Thus, each is analyzed and rejected as previously discussed.

9. Claims 21, 22, 40, 41, 59, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker.

Claim 21 recites the method of claim 1, wherein the first set of programs consists of a single program. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose whether the signals consist of a single program. However, Rostoker does teach the broadcast of signals (which can be broadly interpreted as programs). Therefore, it would be an obvious design choice as to whether the first or second signals comprised one program or multiple programs. Accordingly, it would have been obvious to one of ordinary skill in this art at the time of applicant's invention to modify the teaching of Rostoker to provide a system capable of transmitting a single program.

Claim 40 and 59 correspond to the method claim 21. Thus, each is analyzed and rejected as previously discussed.

Claim 22 recites the method of claim 1, wherein the second set of programs consist of a single program. As discussed above, Rostoker anticipates each and every limitation of claim 1, but fails to specifically disclose whether the signals consist of a single program. However, Rostoker does teach the broadcast of signals (which can be broadly interpreted as programs). Therefore, it would be an obvious design choice as to whether the first or second signals comprised one program or multiple programs. Accordingly, the modified system of Rostoker contains all limitations of claim 22.

Claims 41 and 60 correspond to the method claim 22. Thus, each is analyzed and rejected as previously discussed.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Montpetit (US Pat. No. 6,366,761) discloses a priority based bandwidth allocation system.

b. Schwendeman (US Pat. No. 5,710,766) discloses a system and method for sharing a common bandwidth between multiple signals.

c. Hayano et al (US Pat. No. 5,132,966) disclose a system and method for priority control of signals.

d. Leung (US Pat. No. 6,466,580) discloses a system and method for processing high and low priority transmissions.

e. Payton (US Pat. No. 5,831,662) discloses a system and method using signal fragmentation and sequencing to reduce average bandwidth.

f. Echeita et al (US Pat. No. 6,078,958) disclose a system for allocating available bandwidth.

g. Kalkunte et al (US Pat. No. 6,470,016) disclose a system and method for dynamically allocating bandwidth.

h. Suchowerskyj et al (US Pat. No. 5,438,687) disclose a system for selecting route relevant information using the radio data system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jade O. Laye whose telephone number is (571) 272-7303. The examiner can normally be reached on Mon. 7:30am-4, Tues. 7:30-2, W-Fri. 7:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner's Initials JL
May 9th, 2005.

NGOC-YEN VU
PRIMARY EXAMINER